## IN THE CLAIMS

*This listing of claims will replace all prior versions and listings of claims in the application.*

### Listing of Claims:

1. (Currently Amended) A data processing apparatus for scrambling data which are under being transferred or de-scrambling scrambled data which are under being transferred, comprising:

an ID storing section which stores an ID information relating to a sector which is a scrambling block unit of data under being transferred, which ID information is set by a central processing unit;

a sector counter section which counts the number of the sectors in the data under being transferred;

an operation section which adds the ID information from the ID storing section and the sector number information from the sector counter section;

a scramble seed value table conversion section which converts the addition result which is inputted from the operation section into a scrambling seed value;

a scramble filter of at least one byte which, making a period during which data of a predetermined length is transferred one cycle, produces a next cycle scramble seed value from the present cycle scramble seed value;

a selector which selects a scramble seed value which is outputted from the scramble seed table conversion section when the data under being transferred is a top of a sector and selects the scramble seed value which is outputted from the scramble filter section otherwise, to output the selected result to the scramble filter; wherein

the data under being transferred being scrambled ~~using the addition result which is outputted from the operation section~~ or the scrambled data under being transferred being de-scrambled using the scramble seed value which is outputted from the selector.

2. (Currently Amended) A The data processing apparatus ~~for de-scrambling data which are under being transferred, comprising:~~

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~~an ID storing section which stores an ID information relating to a sector which is a~~

~~scrambling block unit of data under being transferred, which ID information is set by a central~~

~~processing unit;~~

~~a sector counter section which counts the number of the sectors in the data under being~~

~~transferred;~~

~~an operation section which adds the ID information from the ID storing section and the~~

~~sector number information from the sector counter section; wherein~~

~~the scrambled data under being transferred being de-scrambled using the addition result~~

~~which is outputted from the operation section.~~

as defined in Claim 1 wherein:

said scramble filter section which includes at least two scrambling filters, selects a

scrambling filter in accordance with the data length of the data to be transferred, to produce a

next cycle scrambling seed value from the present cycle scrambling seed value.

3. (Currently Amended) ~~The~~ A data processing apparatus ~~as defined in claim 1 or 2,~~

~~further~~ for scrambling data which are under being transferred, comprising:

an ID storing section which stores an ID information relating to a sector which is a

scrambling block unit of data under being transferred, which ID information is set by a central

processing unit;

a sector counter section which counts the number of the sectors in the data under being

transferred;

an operation section which adds the ID information from the ID storing section and the

sector number information from the sector counter section;

a scramble seed value table conversion section which converts the addition result which

is inputted from the operation section into a scrambling seed value;

a scramble filter which, making a period during which data of a predetermined length is

transferred one cycle, produces a next cycle scramble seed value from the present cycle scramble

seed value;

a jumping processing scramble filter which receives the addition result of the operation section and the address information of the data under being transferred, produces a scramble seed value at the destination using the addition result, providing with a case where a jumping in which a part of the data under being transferred is failed, to hold the same value, and outputs a scramble seed value corresponding to the data address at the destination when the jumping processing has occurred;

a first selector which selects the scramble seed value which is outputted from the jumping processing scrambling filter when the jumping processing has occurred, and selects the scramble seed value which is outputted from the scrambling filter otherwise, to output the selected result;

a second selector which selects the scramble seed value which is outputted from the scramble seed value table conversion section when the data under being transferred is a top of a sector and selects the scramble seed value which is outputted from the ~~scramble filter section~~ first selector otherwise, to output the selected result to the scramble filter; wherein

the data under being transferred being scrambled ~~or the scrambled data under being transferred being de-scrambled~~ using the scramble seed value which is outputted from the second selector.

4. (Currently Amended). ~~The~~ A data processing apparatus ~~as defined in claim 3,~~

~~wherein:~~

~~said scramble filter section which includes at least two scrambling filters, selects a~~

~~scrambling filter in accordance with the data length of the data to be transferred, to produce a~~

~~next cycle scrambling seed value from the present cycle scrambling seed value.~~

for de-scrambling scrambled data which are under being transferred, comprising:

an ID storing section which stores an ID information relating to a sector which is a scrambling block unit of data under being transferred, which ID information is set by a central processing unit;

a sector counter section which counts the number of the sectors in the data under being transferred;

an operation section which adds the ID information from the ID storing section and the sector number information from the sector counter section;

a scramble seed value table conversion section which converts the addition result which is inputted from the operation section into a scrambling seed value;

a scramble filter which, making a period during which data of a predetermined length is transferred one cycle, produces a next cycle scramble seed value from the present cycle scramble seed value;

a jumping processing scramble filter which receives the addition result of the operation section and the address information of the data under being transferred, produces a scramble seed value at the destination using the addition result, providing with a case where a jumping in which a part of the data under being transferred is failed, to hold the same value, and outputs a scramble seed value corresponding to the data address at the destination when the jumping processing has occurred;

a first selector which selects the scrambling seed value which is outputted from the jumping processing scrambling filter when the jumping processing has occurred, and selects the scramble seed value which is outputted from the scrambling filter otherwise, to output the selected result; and

a second selector which selects the scrambling seed value which is outputted from the scramble seed value table conversion section when the data under being transferred is a top of a sector and selects the scramble seed value which is outputted from the first selector otherwise, to output the selected result to the scramble filter; wherein

the scrambled data under being transferred being de-scrambled using the scramble seed value which is outputted from the second selector.

5.( Currently Amended) A ~~The~~ data processing ~~apparatus for scrambling data which are~~

~~under being transferred, comprising:~~

~~an ID storing section which stores an ID information relating to a sector which is a~~

~~scrambling block unit of data under being transferred, which ID information is set by a central~~

~~processing unit;~~

a sector counter section which counts the number of the sectors in the data under being transferred;

an operation section which adds the ID information from the ID storing section and the sector number information from the sector counter section;

a scramble seed value table conversion section which converts the addition result which is inputted from the operation section into a scrambling seed value;

a scramble filter which, making a period during which data of a predetermined length is transferred one cycle, produces a next cycle scramble seed value from the present cycle scramble seed value;

a jumping processing scramble filter which receives the addition result of the operation section and the address information of the data under being transferred, produces a scramble seed value at the destination using the addition result, providing with a case where a jumping in which a part of the data under being transferred is failed, to hold the same value, and outputs a scramble seed value corresponding to the data address at the destination when the jumping processing has occurred;

a first selector which selects the scramble seed value which is outputted from the jumping processing scrambling filter when the jumping processing has occurred, and selects the scramble seed value which is outputted from the scrambling filter otherwise, to output the selected result; and

a second selector which selects the scramble seed value which is outputted from the scramble seed value table conversion section when the data to be transferred is data at a top of a

sector and selects the scramble seed value which is outputted from the first selector otherwise, to output the selected result to the scramble filter; wherein

~~the data under being transferred being scrambled using the scramble seed value which is outputted from the second selector.~~

unit as defined in Claim 3 wherein

said scramble filter unit which includes at least two scramble filters, selects a scrambling filter in accordance with the data length of the data to be transferred, to produce a next scrambling seed value from the present scramble seed value.

6. (Currently Amended) ~~A~~ The data processing ~~apparatus for de-scrambling scrambled data which are under being transferred, comprising:~~

~~an ID storing section which stores an ID information relating to a sector which is a scrambling block unit of data under being transferred, which ID information is set by a central processing unit;~~

~~a sector counter section which counts the number of the sectors in the data under being transferred;~~

~~an operation section which adds the ID information from the ID storing section and the sector number information from the sector counter section;~~

~~a scramble seed value table conversion section which converts the addition result which is inputted from the operation section into a scrambling seed value;~~

~~a scramble filter which, making a period during which data of a predetermined length is transferred one cycle, produces a next cycle scramble seed value from the present cycle scramble seed value;~~

a jumping processing scramble filter which receives the addition result of the operation section and the address information of the data under being transferred, produces a scramble seed value at the destination using the addition result, providing with a case where a jumping in which a part of the data under being transferred is failed, to hold the same value, and outputs a scramble seed value corresponding to the data address at the destination when the jumping processing has occurred;

a first selector which selects the scrambling seed value which is outputted from the jumping processing scrambling filter when the jumping processing has occurred, and selects the scramble seed value which is outputted from the scrambling filter otherwise, to output the selected result; and

a second selector which selects the scrambling seed value which is outputted from the scramble seed value table conversion section when the data under being transferred is a top of a sector, and selects the scramble seed value which is outputted from the first selector otherwise, to output the selected result to the scramble filter; wherein

the scrambled data under being transferred being de-scrambled using the scramble seed value which is outputted from the second selector.

device as defined in Claim 3 wherein

said scramble filter section which includes at least two scramble filters, selects a scrambling filters in accordance with the jumping destination of the data to be transferred, to produce the scramble seed value.

7. (Currently Amended) The data processing apparatus unit as defined in claim 5 or 6, Claim 4 wherein[[:]]

said scramble filter ~~section~~ <u>unit</u> which includes at least two ~~scrambling~~ <u>scramble</u> filters, selects a scrambling filter in accordance with the data length of the data to be transferred, to produce a next ~~cycle~~ scrambling seed value from the present ~~cycle scrambling~~ <u>scramble</u> seed value.

8. (Currently Amended) The data processing ~~apparatus~~ <u>device</u> as defined in ~~claim 5 or 6,~~ <u>Claim 4</u> wherein[[:]]

said scramble filter section which includes at least two ~~scrambling~~ <u>scramble</u> filters, selects a scrambling filter in accordance with the jumping destination of the data to be transferred, to produce the ~~scrambling~~ <u>scramble</u> seed value.